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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,084

05/31/2006

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EXAMINER

NGUYEN, KHANH TUAN

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,084	Applicant(s) KAWASUMI ET AL.	
	Examiner KHANH T. NGUYEN	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>none</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Final

Response to Amendment

1. The amendment filed on 03/17/2008 is entered and acknowledged by the Examiner. Claims 1 and 3-6 are currently pending in the instant application. Claims 2 and 7-15 have been canceled.

Withdrawn

2. The objection to the abstract for containing multiple paragraphs is withdrawn in view of Applicant's amendment. The objection to the disclosure at page 6 lines 7 for misspelling is withdrawn in view of Applicant's amendment. The objection of claims 1-15 due to crowded lines is withdrawn in view of Applicant's amendment.

3. The rejection of claims 1, 3, 4 and 6 under 35 U.S.C. 103(a) as being unpatentable over Kawasumi et al. (U.S. Pat. 4,309,457) in view of Kawasumi et al. (U.S. Pat. 5,512,379) is withdrawn in view of Applicant's amendment. The rejection of claims 2, 7-10 and 13-15 under 35 U.S.C. 103(a) as being unpatentable over Kawasumi et al. (U.S. Pat. 4,309,457) in view of Kawasumi et al. (U.S. Pat. 5,512,379) is rendered moot in view of the instant cancellation.

4. The rejection of claims 5 under 35 U.S.C. 103(a) as being unpatentable over Kawasumi et al. (U.S. Pat. 4,309,457) in view of Kawasumi et al. (U.S. Pat. 5,512,379)

and further in view of Cheon et al. (U.S Pat. 6,783,569) is withdrawn in view of Applicant's amendment.

5. The rejection of claims 11 and 12 under 35 U.S.C. 103(a) as being unpatentable over Kawasumi et al. (U.S Pat. 4,309,457) in view of Kawasumi et al. (U.S Pat. 5,512,379) and further in view of Kasai (English Machine Translated JP Pub. 08-176605) is rendered moot in view of the instant cancellation.

6. The rejection of claims 1 and 3-6 under 35 U.S.C. 103(e) as being anticipated by Techmann et al. (U.S Pat. 4,711,814) in view of Cheon et al. (U.S Pat. 6,783,569) is withdrawn in view of Applicant's amendment. The rejection of claims 2, 7-10, 14 and 15 under 35 U.S.C. 103(e) as being anticipated by Techmann et al. (U.S Pat. 4,711,814) in view of Cheon et al. (U.S Pat. 6,783,569) is rendered moot in view of the instant cancellation.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (U.S. Pat. 4,243,728 hereinafter, "Sato") in view of Jeng-Shyong et al. (U.S. Pat. 5,292,359 hereinafter, "Jeng-Shyong").

Sato teaches a process for producing a double-metal-coated particle (i.e. triple layered particle) comprises a step of mixing a palladium salt solution with a plating solution containing metal sulfide powder (second metal salt) and ammonium compound (organic reducing agent) at a thermal decomposition temperature between 300 to 500 °C to producing a double layered palladium coated metal sulfide particle intermediate wherein the coated palladium layer provides a high surface active for the second metal coating (final metal layer) (Col. 1, lines 54-66; Col. 2, lines 55-63; Col. 4, lines 1-29). The intermediate palladium layer also provides a uniform deposition surface for the final metal coating (Col. 5, lines 61-68). Sato teaches the cemented palladium coated metal sulfide particle slurry is mixed with a third metal salt in the present of an organic reducing agent such as sulfuric, hydrochloric, nitric, acetic and oxalic acid to produce the final metal layer, thereby forming a double-metal-coated particle. Sato also teaches the said third metal salt may be a metal or alloy selected from iron, copper, nickel or cobalt wherein the metal ion source is selected from metal salt such as sulfate, hydrochloride and nitrate (Col. 3, lines 5-30; Col. 4, lines 1-64; Col. 5, lines 1-60).

The differences between the instant application and Sato disclosure is that Sato does not teach a step of forming a double layered particle by contacting a low oxidation-reduction potential metal salt and high oxidation-reduction potential metal salt with an organic reducing agent.

However, Jeng-Shyong teaches a process of producing a double layered silver-palladium alloy fine powder useful in electronic industries (Abstract) comprising a step of mixing a silver salt solution with a palladium salt solution in the presence of a hydrazine and a surfactant to form a silver-palladium fine powder having an average particle diameter less than 1 micron (Col. 1, lines 54-61; FIG. 10). The said silver-palladium alloy fine powder forming a uniform powder with a low specific surface area that can eliminate the energy intensity of the heating step and thereby reducing capital investment on heat-treating equipment and the plant space for accommodating said heat-treating equipment (Col. 1, lines 44-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of producing a multiple layered powder of Sato by producing the intermediate silver-palladium fine powder using a low oxidation-reduction potential metal salt and high oxidation-reduction potential metal salt with an organic reducing agent as suggested by Jeng-Shyong then further coating the said silver-palladium fine powder of Sato with a third metal salt solution as suggested by Sato to provide an intermediate silver-palladium powder having a low specific surface area can eliminate the energy intensity required in a heating step and thereby reducing capital investment on heat-treating equipment and the plant space for accommodating said heat-treating equipment.

9. Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawasumi et al. (U.S. Pat. 4,309,457 hereinafter, "Kawasumi") in view of Hayashi et al. (U.S. Pat. 4,776,883 hereinafter, "Hayashi").

Kawasumi teaches a process for producing a multilayer-coated composite powder used in electric machines and instruments (Col. 1, line 13) comprises a step of treating a core powder (Ag or Pd) to be coated with a first metal salt solution and thereby forming a single-layered coated powder. Kawasumi further teaches a treating the said single-layered coated powder (double layered particle) with a second metal salt solution and thereby forming a multiple-layered coated metal powder (Col. 2, lines 34-47). Kawasumi teaches the said metal salts may be selected from cobalt, nickel, copper, silver, gold, palladium, ruthenium and platinum salt of nitrate, hydrochloride, sulfate, ammonium salt, organic acid salt, cyanate and a combination thereof (Col. 3, lines 11-25).

The differences between the instant application and Kawasumi disclosure is that Kawasumi does not teach a step of forming a double layered particle by contacting a low oxidation-reduction potential metal salt and high oxidation-reduction potential metal salt with an organic reducing agent.

Hayashi teaches a method of producing a silver-palladium alloy fine powder wherein silver nitrate (i.e. low oxidation-reduction potential metal salt) and palladium nitrate (i.e. high oxidation-reduction potential metal salt) are dissolved in separate solutions. The silver nitrate solution and palladium nitrate solution are mixed together in the presence of an acidic nitric solution and hydrazine hydrate reducing agent (Col. 4,

lines 1-5) to form a uniform silver-palladium alloy fine powder colloidal solution (Col. 2, lines 20-45; Col. 3, lines 20 to lines 60; Examples 1-2). Hayashi teaches a method of forming silver-palladium colloidal solution comprising a low oxidation-reduction potential metal salt and high oxidation-reduction potential metal salt with an organic reducing agent similar to the claimed method, therefore it would be expected that the high oxidation-reduction potential metal would deposit onto the low oxidation-reduction potential metal to produce the claimed double layered particle.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of producing a multiple layered powder of Kawasumi by producing the intermediate silver-palladium fine powder using a low oxidation-reduction potential metal salt and high oxidation-reduction potential metal salt with an organic reducing agent as suggested by Hayashi then further coating the said silver-palladium fine powder of Kawasumi with a third metal salt solution as suggested by Kawasumi in order to produce a multilayer-coated composite powder without requiring extensive heating such as in conventional electroplating method, thus reducing manufacturing energy and capital investment on heat-treating energy and equipment.

Response to Arguments

10. Applicant's arguments with respect to claims 1 and 3-6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHANH T. NGUYEN whose telephone number is (571)272-8082. The examiner can normally be reached on Monday-Friday 8:00-5:00 EST PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone

Art Unit: 1796

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Kopec/
Primary Examiner, Art Unit 1796

/KTN/
05/09/2008